Fig. S1: Zoom for Godavari delta, with sampling sites and the major vegetation zones (Olson et al., 2001; Asouti and Fuller, 2008).
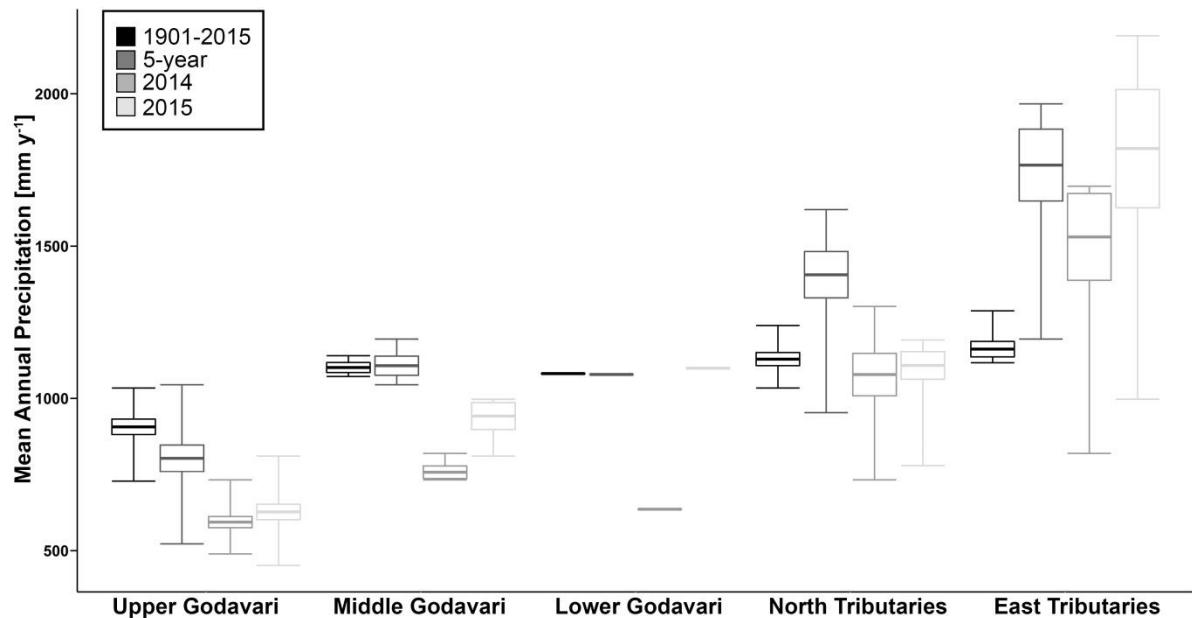
Fig. S2: Box-and-whisker plot of long-term (1901–2015; CRU TS v. 3.24.01 dataset; Harris et al., 2014; Dearing Crampton-Flood et al., 2020), 5 year (2012–2016), 2014 (previous growing season) and 2015 (sampling year) Mean Annual Precipitation (MAP) for the 5 subbasins (Water Resources Information System, accessed 01/02/2021). The box represents the mean – 1 standard error (SE) and mean + 1 SE, the horizontal line in the box represents the mean, and the whiskers extent to the minimum and maximum values.
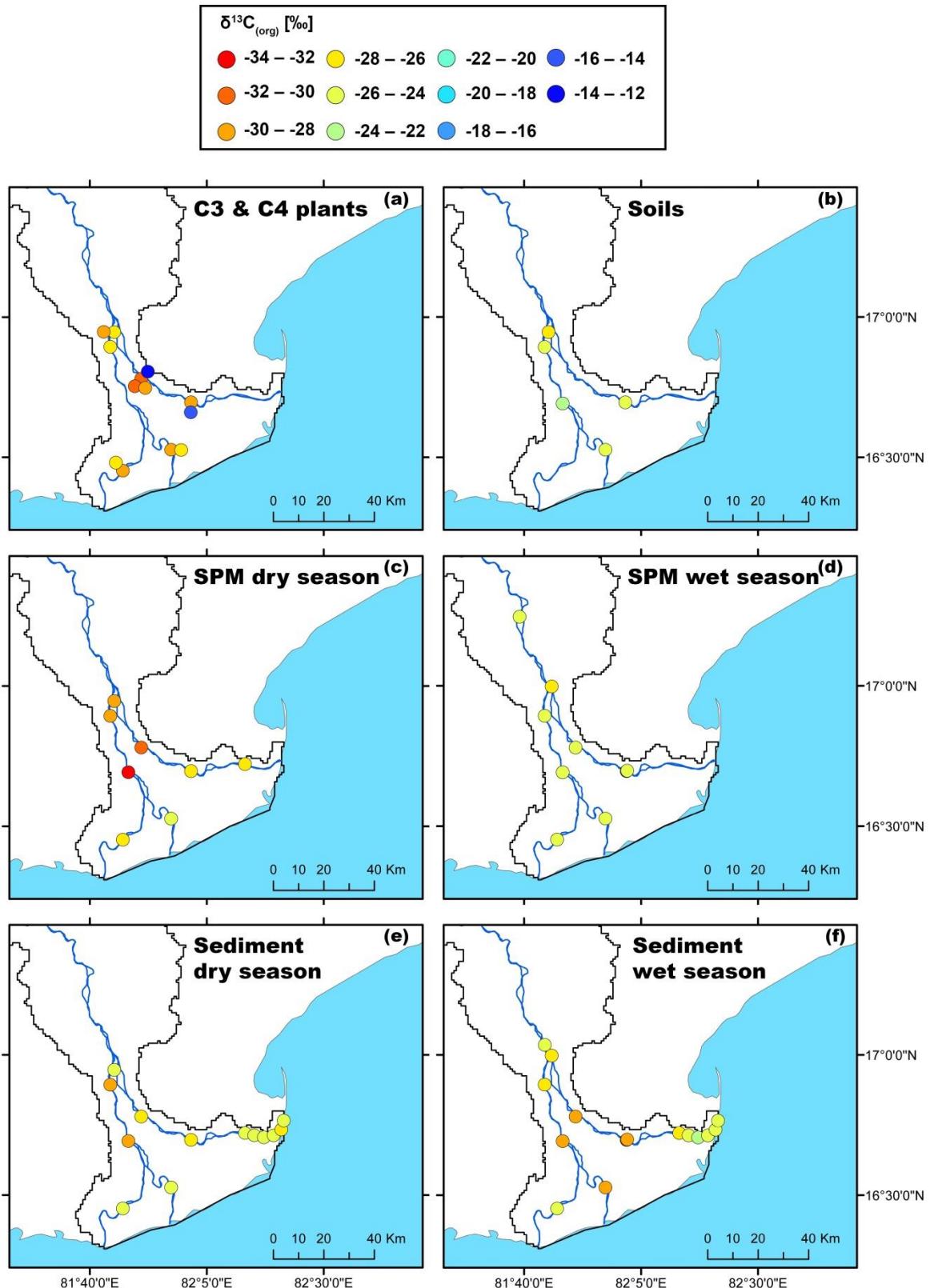
Fig. S3: Maps showing the spatial distribution of (bulk) $\delta^{13}C_{(org)}$ values in the Godavari delta for (a) C3 and C4 plants, (b) (bulk) soils, SPM collected in the (c) dry and (d) wet season, and (bulk) riverbed sediments collected in the (e) dry and (f) wet season. The coloured points refer to the $\delta^{13}C_{(org)}$ values and the 30-year average rainfall distribution is shown on the background.
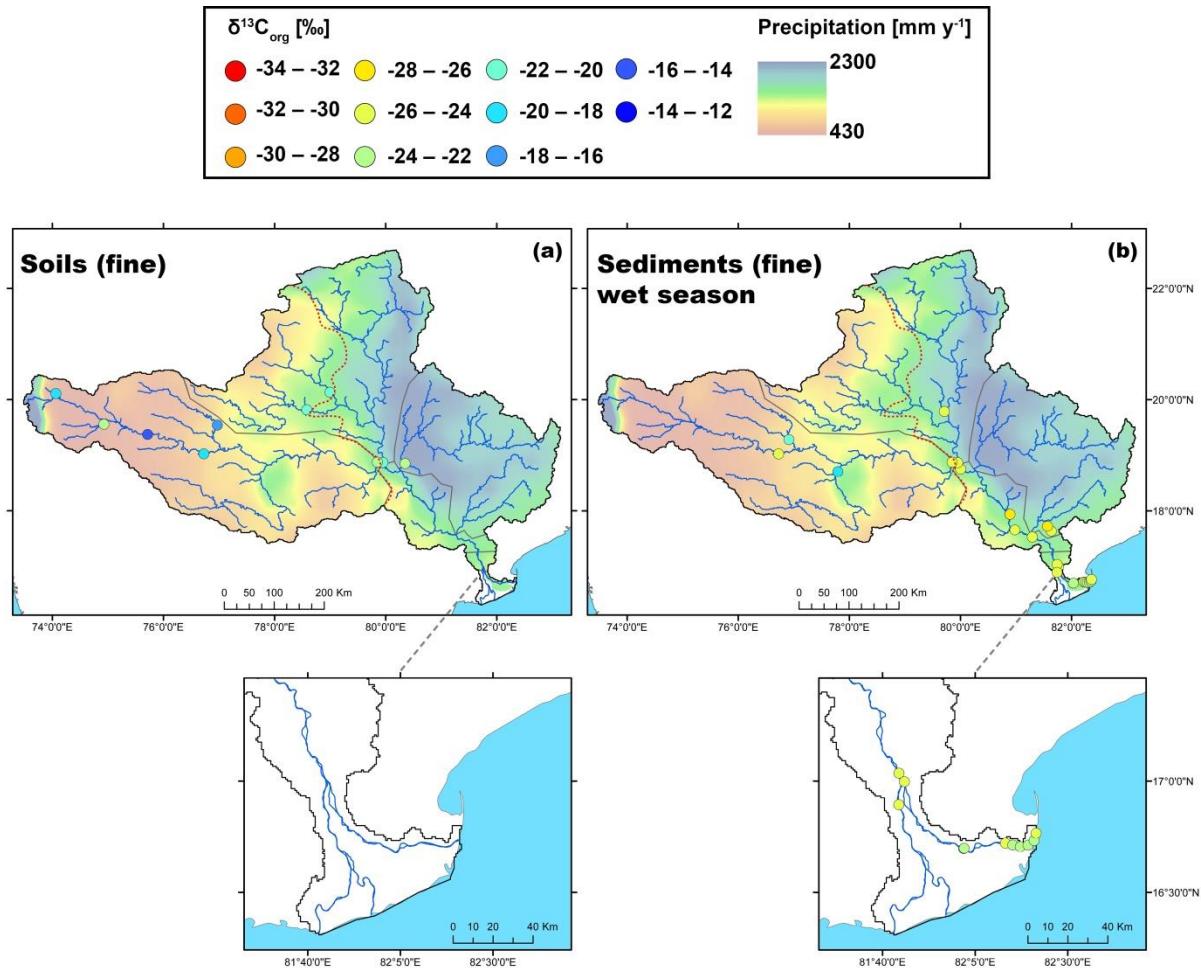
Fig. S4: Maps showing the spatial distribution of (bulk) $\delta^{13}C_{org}$ values in the Godavari basin for (a) fine (≤ 63 µm) soils and (b) fine riverbed sediments collected in the wet season. The main panel shows the whole basin, with a zoom for the delta region. The coloured points refer to the $\delta^{13}C_{org}$ values and the 30-year average rainfall distribution is shown on the background.
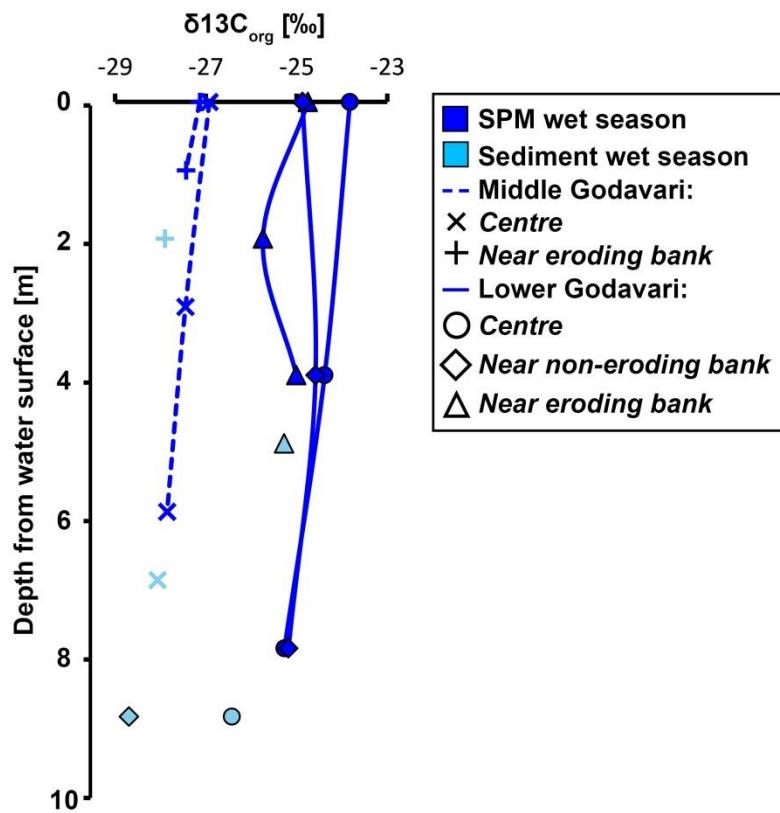
Fig. S5: $\delta^{13}C_{org}$ **values with river depth for in SPM and (bulk) riverbed sediments collected in the wet season in the Middle (site 28) and Lower Godavari (site10). The symbols represent the position in the channel: mid-channel (centre), and near the (non-)eroding riverbank. The shallowest profiles are taken near the non-eroding riverbank.**